

City of Eugene – Stormwater Program Vision for Green Infrastructure



Green Infrastructure: A combination of constructed and natural stormwater systems linked together into one system.

Willamette River, 1944

Before
Federal
Dams



West Eugene, 1944

Before
Channelization
of Amazon
Creek and
Tributaries

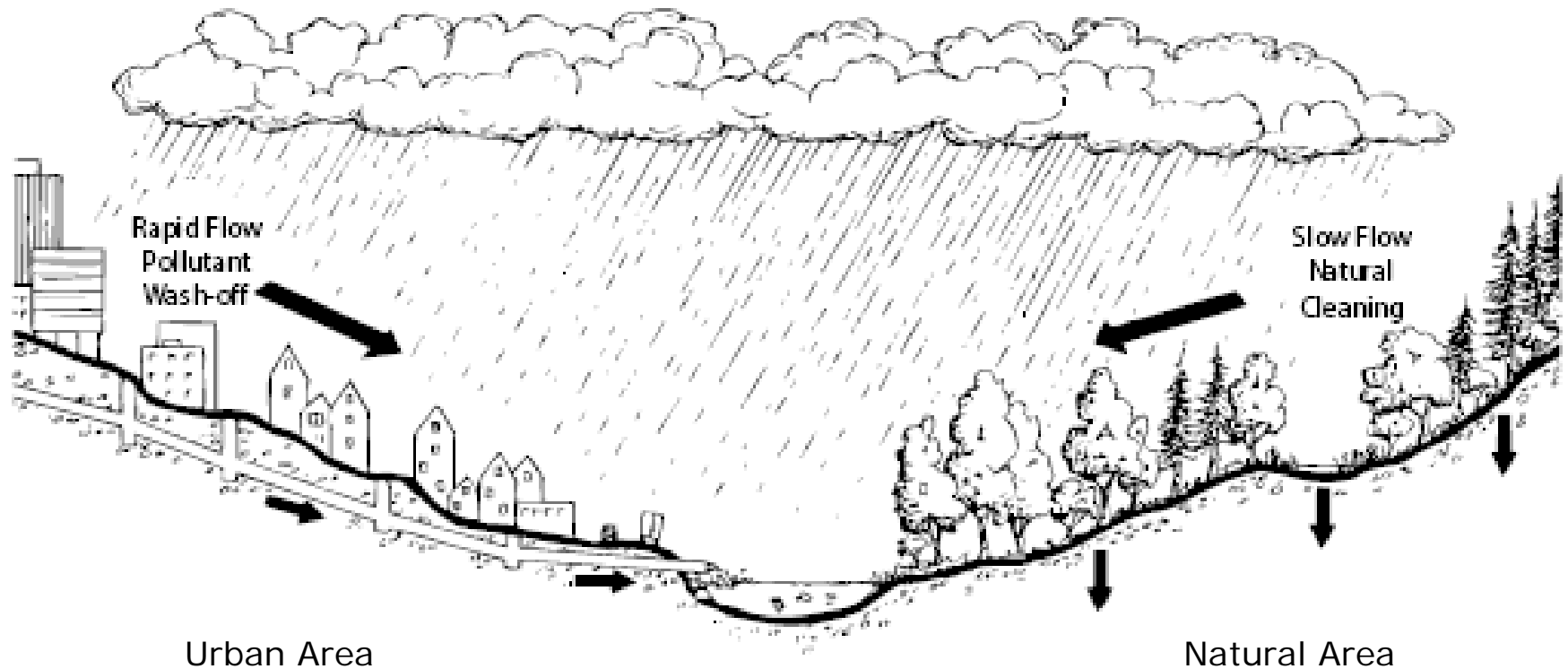
Braided and
Anastomosed
Floodplain



Channelization & Stormwater Runoff Amazon Creek (circa 1950's)



Urbanization & Stormwater Runoff



Stormwater runs off impervious surfaces into storm drains and ditches that lead directly to local waterways

Waterway

Stormwater seeps into the ground and is filtered by the soil. The water is slowly released to restore groundwater supplies.

Urban & Industrial Stormwater Typical Pollutants

- ❑ Suspended solids/sediment
- ❑ Nutrients (phosphorus & nitrogen)
- ❑ Metals (copper, zinc, lead, cadmium)
- ❑ Oil & greases (PAHs)
- ❑ Bacteria
- ❑ Pesticides & herbicides
- ❑ Temperature

By the Late 80's

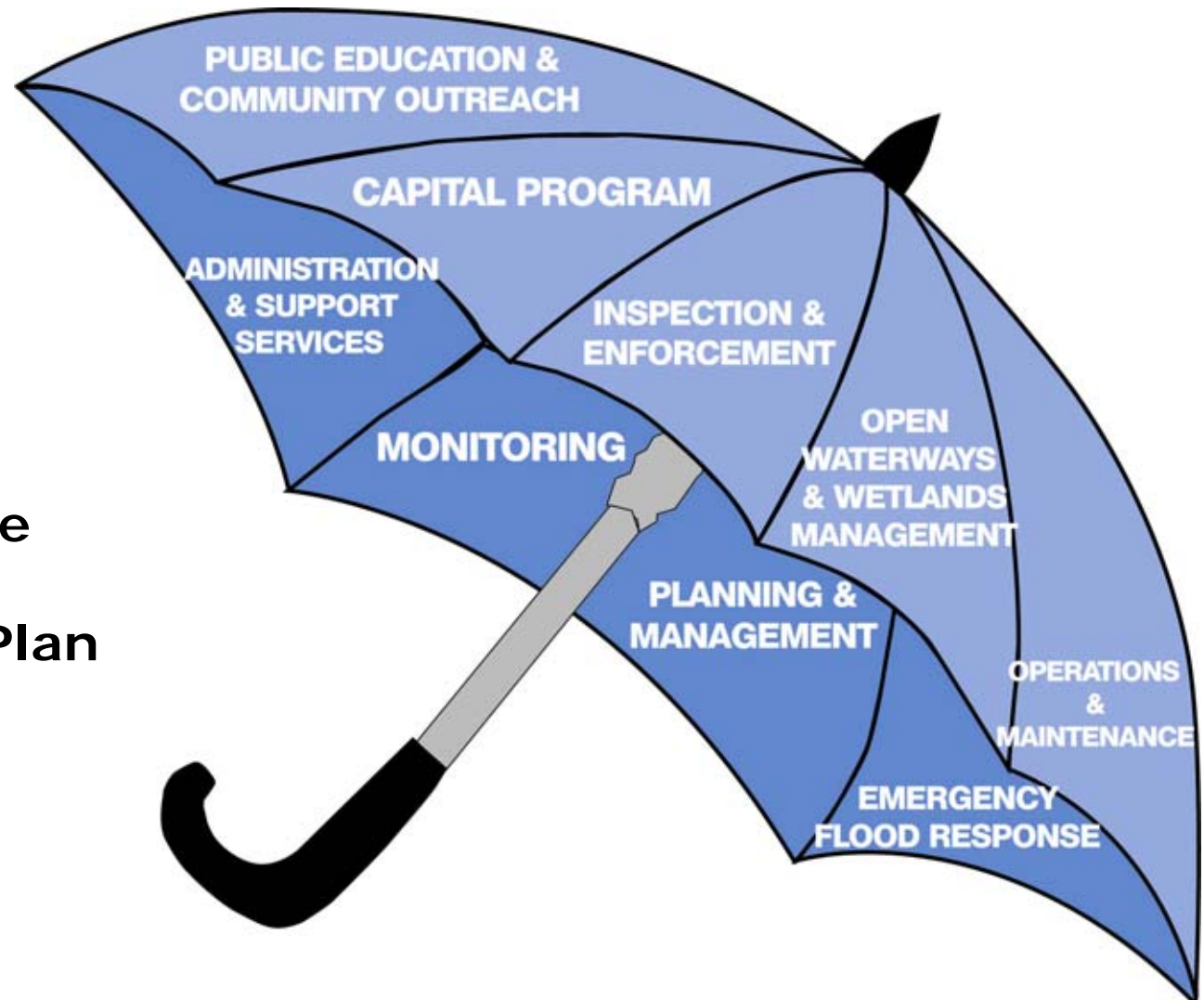
What Was the Problem?

- ❑ Historically, Eugene's stormwater system was designed with one primary objective: to control floods
- ❑ Flood control objectives were achieved, but at a cost:
 - Water quality degradation
 - Waterway degradation
- ❑ New action was required
 - Federal & state regulations
 - Local policy



What Was the Local Response?

**Eugene's
Comprehensive
Stormwater
Management Plan
(1993)**



Implementing the Plan (90's to present)

Water Quality Monitoring



Implementing the Plan (90's to present)

Re-Vamped Operations & Maintenance



Implementing the Plan (90's to present)

Spill Response & Illicit Discharge Programs



Implementing the Plan (90's to present) Public Education



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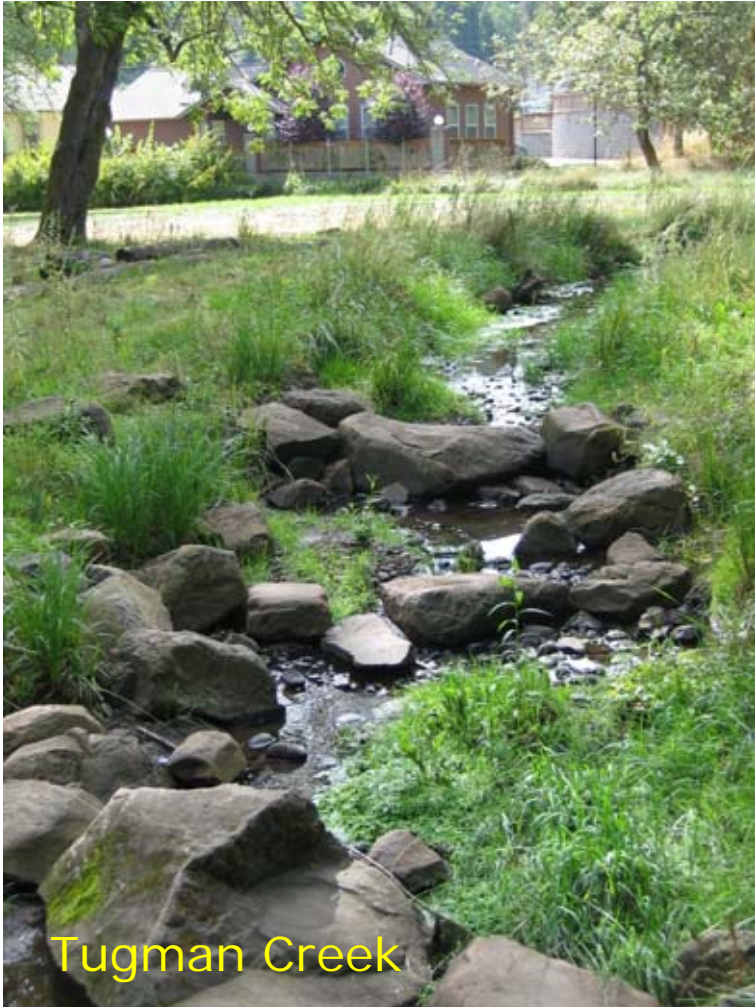
Implementing the Plan (90's to present)

Stream Corridor Acquisition



Implementing the Plan (90's to present)

Capital Projects



Lower Amazon Creek Restoration Pre-Construction

January 2001 Lower Amazon Fly-over



Lower Amazon Creek Restoration Post-Construction (Summer 2001)



Lower Amazon Creek Restoration Four+ Years Later.... (January 2006)



Proposed in 2006 to Fill Program Gap: “Stormwater Development Standards”

- ❑ **Pollution Reduction** standards for development;
- ❑ **Flow Control** standards for developments discharging to headwater streams;
- ❑ **Oil Control** standards for developments on properties that produce high concentrations of these pollutants; and
- ❑ **Source Controls** for certain land uses and site characteristics.

Stormwater Development Standards Ordinance

City Council Public Hearing: May 8

City Council Adoption: May 22

Standards Met by Employing Stormwater Facilities Including:

- ❑ Impervious Area Reduction Techniques
- ❑ Stormwater Treatment Facilities

Impervious Area Reduction Techniques

Pervious Pavements



Reduced Impervious Area

Impervious Area Reduction Techniques

Eco-Roofs & Roof Gardens



Impervious Area Reduction Techniques

Contained Planters



Tree Credits - *preserve existing tree canopies or plant trees*



Stormwater Treatment Facilities



Infiltration Planters & Basins



Store runoff to settle, filter, and allow plant uptake of pollutants and reduce peak flows

Stormwater Treatment Facilities

**Grassy Swale
(or open grassy area)**



Vegetative Swale



Trap pollutants in surface runoff & prevent them from travelling downstream (resident time & vegetation contact)

Stormwater Treatment Facilities

Store runoff to settle, filter, and allow plant uptake of pollutants and reduce peak flows

Ponds



Wetlands

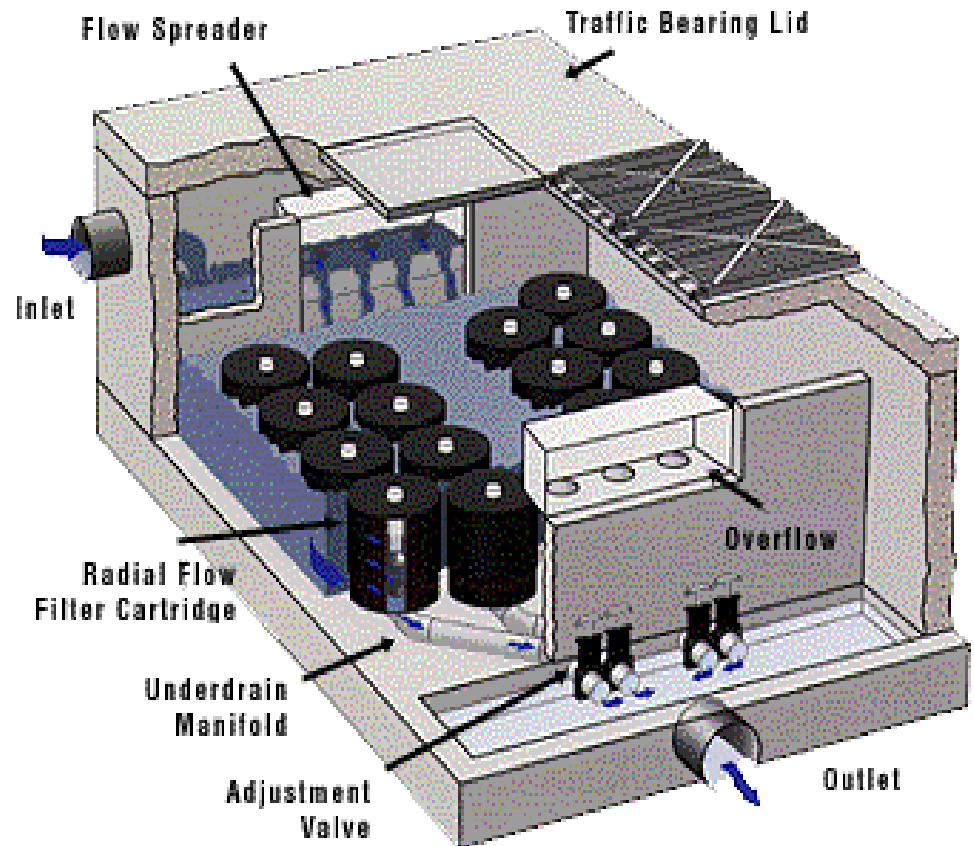


Stormwater Treatment Facilities

Structural Filtration Devices

Trap pollutants in underground piped flows and prevent them from travelling downstream

Must be constructed so that high flows bypass system



Envision Green Infrastructure

